

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

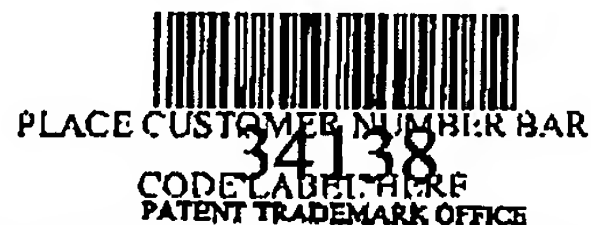
Assistant Commissioner for Patents  
Washington, DC 20231

Sir:

**POWER OF ATTORNEY WITH REVOCATION AND  
CHANGE OF CORRESPONDENCE ADDRESS**

I hereby revoke all previous powers of attorney or authorizations of agent given in the applications identified in Table A attached hereto, and appoint

☒ Practitioners at Customer Number: 34138



as my/our attorney(s) or agent(s) to prosecute the application identified above, and to transact all business in the United States Patent and Trademark Office connected therewith.

Please change the Correspondence Address for all applications identified in Table

A to:

☒ Practitioners at Customer Number: 34138

I am the:

☐ Applicant/Inventor.

☒ Assignee of record of the entire interest. (A statement under 37 CFR 3.73(b) is enclosed.)

Respectfully submitted,

ISIS PHARMACEUTICALS, INC.

Date: 5-30-03

By: \_\_\_\_\_

Name: B. Lynne Parshall

Title: Executive Vice President

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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Assistant Commissioner for Patents  
Washington, DC 20231

Sir:

**STATEMENT UNDER 37 CFR 3.73(b)**

Applicant, **ISIS Pharmaceuticals, Inc.**, a corporation, states that it is:

☒ the assignee of the entire right, title, and interest of the applications identified in Table A attached hereto.

The extent (by, percentage) of its ownership interest is **100%** in the patent applications identified in Table A by virtue of:

☒ a copy of the pertinent assignment from the inventor(s) of the patent applications identified in Table A is enclosed herewith.

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

Respectfully submitted,  
**ISIS PHARMACEUTICALS, INC.**

Date: 5-30-03

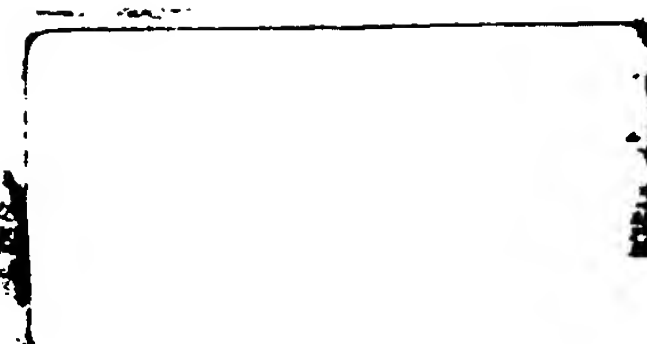
By: \_\_\_\_\_

Name: **B. Lynne Parshall**

Title: **Executive Vice President**

# TABLE A

SERIAL NO.	FILING DATE	INVENTORS	EXAMINER	ART UNIT	TITLE
09/546,596	April 10, 2000	Cook, Manoharan, Bennett	J.N. Fredman	1637	Compositions and Methods for Enhanced Biostability and Altered Biodistribution of Oligonucleotides in Mammals
09/902,953	July 11, 2001	Krotz, Mehta	J.Schultz	1635	Enhancement of the Stability of Oligonucleotides Comprising Phosphorothiccate Linkages by addition of Water-Soluble Antioxidants
09/944,493	August 22, 2001	Weinbach, Tillman, Geary, Hardee	Not Yet Determine	1615	Pulsatile Release Compositions and Methods for Enhanced Intestinal Drug Absorption
09/935,316	August 22, 2002	Teng, Weinbach, Tillman, Geary, Hardee	Not yet determined	1632	Bioadhesive Compositions and Methods for Enhanced Intestinal Drug Absorption
10/029,598	December 21, 2001	Teng, Cook, Tillman, Hardee, Ecker, Manoharan	J. Epps	1635	Compositions and Methods for Non-Parenteral Delivery of Oligonucleotides
09/315,294	May 20, 1999	Mehta, Hardee, Cook, Ecker, Tsai, and Templin	M. Schmidt	1635	Compositions and Methods for Topical Delivery of Oligonucleotides
09/315,298	May 20, 1999	Teng, Cook, Tillman, Hardee, Ecker and Manoharan	J. Epps	1635	Compositions and Methods for Non-Parenteral Delivery of Oligonucleotides
09/108,673	July 1, 1998	Teng, and Hardee	W. Sandals	1636	Compositions and Methods for the Delivery of Oligonucleotides via the Alimentary Canal



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**Papers:** Recordation Form Cover Sheet; Assignment; Check in the amount of \$40.00

**Title:** Compositions and Methods for Non-Parenteral Delivery of Oligonucleotides

**Applicant(s):** Teng, et al.

**Serial No.:** 10/059,598 (10,029,598)

**Filed:** 12/21/01

**Docket No.:** ISIS-4945

**Date Sent:** May 6, 2002

JWC/MPS/ERD/lshultz

**RECEIVED BY THE UNITED STATES  
PATENT AND TRADEMARK OFFICE**

**Papers:** Recordation Form Cover Sheet; Assignment; Check in the amount of \$40.00

**Title:** Compositions and Methods for Non-Parenteral Delivery of Oligonucleotides

**Applicant(s):** Teng, et al.

**Serial No.:** 10/059,598

**Filed:** 12/21/01

**Docket No.:** ISIS-4945

**Date Sent:** May 6, 2002

JWC/MPS/ERD/lshultz

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MACKIEWICZ & NORRIS LLP

05/03/2002  
CHECK DATE

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DIRECTOR OF THE UNITED STATES  
PATENT AND TRADEMARK OFFICE



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WOODCOCK WASHBURN KURTZ  
MACKIEWICZ & NORRIS LLP

DETACH AND RETAIN THIS STATEMENT  
THE ATTACHED CHECK IS IN PAYMENT OF ITEMS DESCRIBED BELOW  
IF NOT CORRECT PLEASE NOTIFY US PROMPTLY. NO RECEIPT DESIRED.

CHECK NO. 114179  
05/03/2002

INVOICE DATE	INVOICE NO.	DESCRIPTION	AMOUNT PAID
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RECORDATION FORM COVER SHEET  
PATENTS ONLY

To The Honorable Commissioner of Patents and Trademarks. Please record the attached original documents or copy thereof.

## 1. Name of conveying party(ies):

Ching-Leou Teng	6/23/99
First Assignor	Date of Execution
Phillip Dan Cook	6/29/99
Second Assignor	Date of Execution
Lloyd Tillman	6/24/99
Third Assignor	Date of Execution
Gregory E. Hardee	6/23/99
Fourth Assignor	Date of Execution
David J. Ecker	6/29/99
Fifth Assignor	Date of Execution
Muthiah Manoharan	6/28/99
Sixth Assignor	Date of Execution

Additional name(s) of conveying party(ies) attached? ☐ YES ☒ NO

## 2. Name and address of receiving party(ies):

Name: ISIS Pharmaceuticals, Inc.

Street Address: 2292 Faraday Avenue

City: Carlsbad

State: California

ZIP 92008

Additional name(s) & address attached? ☐ YES ☒ NO

## 3. Nature of Conveyance (check only one):

- |  |   |
|--|---|
| <input type="checkbox"/> New Assignment    | <input type="checkbox"/> Merger             |
| <input type="checkbox"/> License Agreement | <input type="checkbox"/> Security Agreement |
| <input type="checkbox"/> Change of Name    | <input type="checkbox"/> Other:             |

☒ Cross-reference of Assignment filed in United States  
Application No. 09/315,298, recorded on 5/20/99 at  
Reel No. 010166 Frame No. 0588

## 4. Identification of Application number(s), patent number(s) OR date of execution of application to which assignment refers:

Application Nos.:

10/029,598

Patent Nos.:

Date application was signed by the first  
named executing inventor(Fill-in this date only if assignment is  
filed together with a new application)5. Name and address of party to whom correspondence  
concerning documents should be mailed:

Emma R. Dailey  
WOODCOCK WASHBURN LLP  
One Liberty Place - 46th Floor  
Philadelphia, Pennsylvania 19103-7301  
215-568-3100

6. Total number of applications and patents involved: 1

## 7. Total fee (37 CFR 3.41):.....\$40.00

☒ Enclosed☐ Authorized to be charged to Deposit Account  
Number 23-30508. Please charge any deficiency or credit any  
overpayment to Deposit Account Number 23-3050

DO NOT USE THIS SPACE

## 9. Statement and signature.

*To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.*

Emma R. Dailey/48,491

Name of Person Signing/Reg. No.

Signature

May 6, 2002

Date

Total number of pages including cover sheet, assignment document and additional pages attached thereto: 9

Mail documents to be recorded with required cover sheet information to:

Commissioner of Patents and Trademarks  
Box Assignments  
Washington, D.C. 20231

## A S S I G N M E N T

WHEREAS, We, Ching-Leou Teng, of San Diego, State of California, Phillip Dan Cook, of ~~Lake San Marcos~~ <sup>FAIRBROOK</sup>, State of California, Lloyd Tillman, of Carlsbad, State of California, Gregory E. Hardee, of Rancho Sante Fe, State of California, David J. Ecker, of Encinitas, State of California, and Muthiah Manoharan, of Carlsbad, State of California, have invented a certain invention entitled **COMPOSITIONS AND METHODS FOR NON-PARENTERAL DELIVERY OF OLIGONUCLEOTIDES**, for which we have made application for Letters Patent of the United States, said application having been filed May 20, 1999 and assigned Application No. 09/315,298; and

WHEREAS, ISIS Pharmaceuticals, Inc. hereinafter referred to as the assignee, of 2292 Faraday Avenue, Carlsbad CA, a corporation of Delaware, is desirous of acquiring the entire right, title and interest in and to the said inventions or improvements and in and to the said application, and in, to and under any and all Letters Patent which may be granted on or as a result thereof in any and all countries:

NOW, THEREFORE, for and in consideration of the sum of One Dollar (\$1.00) to each of us in hand paid by said assignee, and other good and valuable consideration, the receipt of which is hereby acknowledged, we, the said assignors, have sold, assigned, transferred and set over, and by these presents do hereby sell, assign, transfer and set over to said assignee, the entire right, title and interest in and to said inventions or improvements and said application and any and all continuations, divisions and renewals of and substitutes for said application, and in, to and under any and all Letters Patent which may be granted on or as a result thereof in the United States and any and all other countries, and any reissue or reissues or extension or extensions of said Letters Patent, and assign to and authorize said assignee, to file in our names applications for Letters Patent in all countries, the same to be held and enjoyed by said assignee, its successors, assigns, nominees or legal

representatives, to the full end of the term or terms for which said Letters Patent respectively may be granted, reissued or extended, as fully and entirely as the same would have been held and enjoyed by us had this assignment, sale and transfer not been made.

AND we hereby covenant that we have full right to convey the entire interest herein assigned, and that we have not executed and will not execute any agreement in conflict herewith, and we further covenant and agree that we will each time request is made and without undue delay, execute and deliver all such papers as may be necessary or desirable to perfect the title to said inventions or improvements, said application and said Letters Patent to said assignee, its successors, assigns, nominees, or legal representatives, and each of us agrees to communicate to said assignee or to its nominee all known facts respecting said inventions or improvements, said application and said Letters Patent, to testify in any legal proceedings, to sign all lawful papers to execute all disclaimers and divisional, continuing, reissue and foreign applications, to make all rightful oaths, and generally to do everything possible to aid said assignee, its successors, assigns, nominees and legal representatives to obtain and enforce for its or their own benefit proper patent protection for said inventions or improvements in any and all countries.

AND we hereby authorize and request the Commissioner of Patents and Trademarks of the United States and any official of any country or countries foreign to the United States whose duty it is to issue patents on applications as aforesaid, to issue to said assignee, as assignee of the entire right, title and interest, any and all Letters Patent for said inventions or improvements, including any and all Letters Patent of the United States which may be issued and granted on or as a result of the application aforesaid, in accordance with the terms of this assignment.



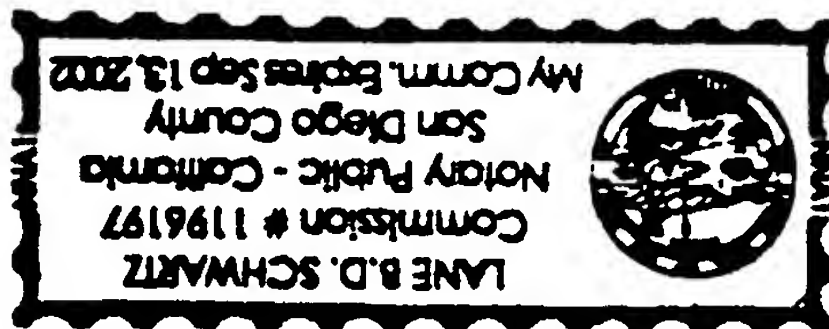
IN WITNESS WHEREOF, we have hereunto set our hands and seals.

Dated: June 23, 1999

Ching - Leou Teng  
CHING-LEOU TENG

State of California )  
County of San Diego ) ss.

On this 23<sup>rd</sup> day of June, 1999, before me, the undersigned, a Notary Public for the state, personally appeared **CHING-LEOU TENG** personally known to me/~~proved to me on the basis of satisfactory evidence~~ to be the person who subscribed the foregoing Assignment and acknowledged to me that he/~~she~~ executed the same in his/~~her~~ authorized capacity, and that by his/~~her~~ signature on the Assignment the person, or the entity on behalf of which the person acted, executed the Assignment.



WITNESS my hand and official seal.

Lane B.D. Schwartz  
Signature of Notary

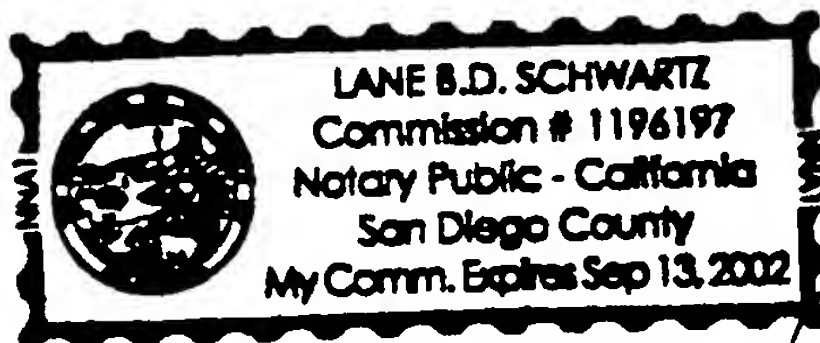
Dated: 6/22/99, 1999

Phillip Dan Cook

PHILLIP DAN COOK

State of California )  
County of San Diego ) ss.

On this 22<sup>nd</sup> day of June, 1999, before me, the undersigned, a Notary Public for the state, personally appeared **PHILLIP DAN COOK** personally known to me/~~proved to me on the basis of satisfactory evidence~~ to be the person who subscribed the foregoing Assignment and acknowledged to me that ~~he~~/she executed the same in ~~his~~/her authorized capacity, and that by ~~his~~/her signature on the Assignment the person, or the entity on behalf of which the person acted, executed the Assignment.



WITNESS my hand and official seal.

Lane B.D. Schwartz  
Signature of Notary

Dated: June 24, 1999

Lloyd Tillman  
LLOYD TILLMAN

State of California )  
County of San Diego ) ss.

On this 24<sup>th</sup> day of June, 1999, before me, the undersigned, a Notary Public for the state, personally appeared **LLOYD TILLMAN** personally known to me/~~proved to me on the basis of satisfactory evidence~~ to be the person who subscribed the foregoing Assignment and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the Assignment the person, or the entity on behalf of which the person acted, executed the Assignment.



WITNESS my hand and official seal.

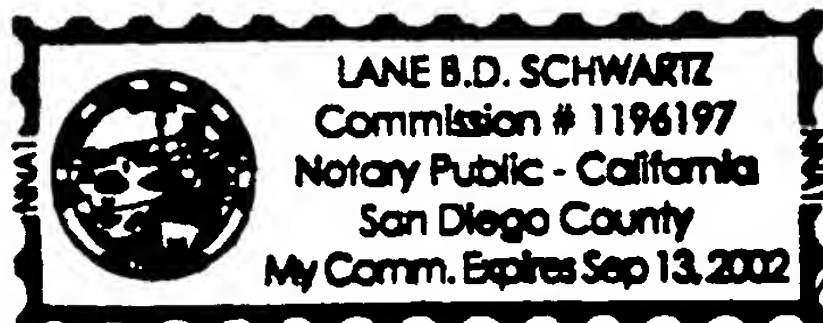
Lane B.D. Schwartz  
Signature of Notary

Dated: 6/23, 1999

GREGORY E. HARDEE  
GREGORY E. HARDEE

State of California )  
County of San Diego ) ss.

On this 23<sup>rd</sup> day of June, 1999, before me, the undersigned, a Notary Public for the state, personally appeared **GREGORY E. HARDEE** personally known to me/~~proved to me on the basis of satisfactory evidence~~ to be the person who subscribed the foregoing Assignment and acknowledged to me that ~~he~~ she executed the same in ~~his~~ her authorized capacity, and that by ~~his~~ her signature on the Assignment the person, or the entity on behalf of which the person acted, executed the Assignment.



WITNESS my hand and official seal.

Lane B.D. Schwartz  
Signature of Notary

# PATENT

David J. Ecker  
DAVID J. ECKER

**SS.**

**WITNESS my hand and official seal.**





Dated: June 25, 1999

Muthiah Manoharan  
MUTHIAH MANOHARAN

State of California                    )  
  )       ss.  
County of San Diego                 )

On this 25<sup>th</sup> day of June, 1999, before me, the undersigned, a Notary Public for the state, personally appeared **MUTHIAH MANOHARAN** personally known to me/~~proved to me on the basis of satisfactory evidence~~ to be the person who subscribed the foregoing Assignment and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the Assignment the person, or the entity on behalf of which the person acted, executed the Assignment.

WITNESS my hand and official seal.



Lane B.D. Schwartz  
Signature of Notary